

could be a transferred substrate microstrip implementation with the ground plane 84 below the optical waveguide WG.

8-20-08 5 There are also a few different possible implementations <sup>9</sup> regarding the active modulator segments. Figure 9b and ~~19~~<sup>9</sup>c show different variations. Figure 9b is an elevated co-planar transmission line with only one ground plane. Figure 9c could be a transferred substrate microstrip waveguide type with the ground plane 84 below the optical waveguide WG.

10 Figures 10a, 10b and 10c illustrates different implementations of a co-planar passive transmission line, where figures 10a and 10b are elevated co-planar implementations with two, or one ground plane, respectively. Figure 10c shows a variation with a non-elevated co-planar implementation using two ground planes.